

# Drinking Water Quality Report 2003



Public Utilities

## Casper Water – Still the best drink in town!

**W**e are proud to provide you with our 2003 Drinking Water Quality Report. This report lets you know that our drinking water is safe and that it meets or exceeds all the stringent drinking water quality standards set forth by the Environmental Protection Agency.

The 2003 Drinking Water Quality Report provides a summary of the quality of water we provided you in 2003. If this information looks familiar, it should. As part of the Safe Drinking Water Act, we are required to report to you annually, and most of the language is required too. Congress and the Environmental Protection Agency (EPA) want people to know what is in their drinking water. We agree. Providing you with a safe and dependable supply of drinking water will remain our constant goal.

## Protecting Your Drinking Water

**W**e, along with the Central Wyoming Regional Water System, are vigilant about safeguarding the water supply. You can help by watching what you put into the storm drain and into the garbage. Storm drains flow untreated into the North Platte River, and anything put into gutters or storm drains ends up there. Hazardous and harmful wastes put into the garbage can find their way into groundwater and the river. Some simple rules to follow include:

- Never wash paint brushes and paint pans or dump leftover paint (even water-based paint) in the gutter or storm drain.
- Never put any hazardous or harmful wastes into dumpsters, trash containers, or the storm drain. Use the Household Hazardous Waste Facility. You can access this free service by calling 235-8246.

- Report chemical, gas, oil, and other spills to non-emergency dispatch at 235-8278.
- Pick up your pet's waste. Pet waste is a serious water contaminant.

- Limit the amount of fertilizers and weed killers used on your lawn and landscaping. They wash into gutters and storm drains and leach into groundwater from your lawn and landscaping.



Photo by Steve Krubeck

Photo by Steve Krubeck

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What you should know about lead and copper in drinking water

The water you receive contains naturally occurring low levels of lead and copper. Lead and copper can also leach into your water from plumbing systems. Considered at risk are homes built before 1986 that may have copper pipes with lead solder or before 1950 that may have lead service lines. Also, brass fixtures, regardless of age, generally contain some lead.

Infants and children who drink water containing lead in excess of the action level (see table) could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Sources of Casper’s drinking water

The City of Casper purchases wholesale water from the Central Wyoming Regional Water System for your use. The water comes from two sources: groundwater and surface water.

In order to meet the demand for water from May through September, groundwater is blended with surface water.

Groundwater provides an average of 71% of Casper’s water. Groundwater is pumped from the North Platte River alluvial aquifer via 30 wells and is treated with ozone and chloramines for disinfection and a corrosion inhibitor to reduce corrosion of water mains and residential plumbing systems.



An average of 29% of Casper’s water is surface water drawn from the North Platte River. This water originates as snowmelt from the upper North Platte River basin and is clarified, disinfected with ozone, filtered, disinfected with chloramines, and treated with a corrosion inhibitor before it is released into the distribution system.

In our water

The 14 substances listed in the table below were detected in Casper’s water during 2003. All are below levels allowed by federal regulations. We tested for 68 other

regulated contaminants. They are not listed because they were not detected. These include radioactive contaminants; pesticides, herbicides and other synthetic organic contaminants; and volatile organic contaminants. Additional information on the analysis can be obtained by calling Casper Public Utilities at 235-8213.

Your water is monitored 365 days a year. Tests are done before and after treatment and while your water is in the distribution system. The results are compared to the stringent contaminant level limits and goals set by the Environmental Protection Agency to ensure that your drinking water is safe.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily mean water may be a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline at 1-800-426-4791.

SUBSTANCE	VIOLATION	HIGHEST LEVEL ALLOWED (MCL)	HIGHEST LEVEL DETECTED	IDEAL GOALS (MCLG)	POTENTIAL SOURCES OF CONTAMINANT
Regulated at the Gmundwater Soures and Treatment Plant					
Bromate	No	10 ppb	5.2 ppb	0	Drinking water ozonation by-product
Bromide	No	NA	83 ppb	NA	Naturally occuring
Fluoride	No	4 ppm	0.4 ppm	4 ppm	Erosion of natural deposits
Nitrate (as Nitrogen)	No	10 ppm	0.3 ppm	10 ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium	No	not regulated	42 ppm	none set	Erosion of natural deposits
Turbidity	No	0.3	0.285 NTU	NA	Soil runoff
Cryptosporidium	No	2-log removal	< 1 CFU/100 ml	NA	Animal and human fecal waste
Aerobic Spores	No	NA	1.6/100 ml	NA	Naturally present in the environment
Regulated at the Consumer Tap					
Lead	No	15 ppb AL no site exceeded AL	4 ppb AL	0	Household plumbing
Copper	No	1.3 ppm AL no site exceeded AL	0.87 ppm AL	1.3 ppm	Household plumbing
Regulated in the Distribution System					
Total Coliform Bacteria	No	< 5 % positive	2.7%	0	Naturally occurring
Asbestos	No	7 MFL	< 0.18	7 MFL	Decay of asbestos cement water mains; erosion of natural deposits
Total Trihalomethane	No	80 ppb	0.2 ppb	NA	Drinking water chlorination by-product
Haloacetic Acids (5)	No	60 ppb	2.3 ppb	NA	Drinking water chlorination by-product

Definitions

- AL** Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Action Levels are reported at the 90th percentile for homes at greatest risk.
- CFU** Colony Forming Units: The number of visible growths of microorganism in a nutrient medium.
- MCL** Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available technology.
- MCLG** Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- MFL** Million Fibers per Liter: A measure of the presence of asbestos fibers that are longer than 10 micrometers.

- NA** Not applicable: The EPA has not requested monitoring for this contaminant.
- ND** Non-detects: The contaminant was monitored but not detected.
- NTU** Nephelometric Turbidity Unit: The measurement of the clarity of water.
- pCi/L** pico Curies per liter: A measure of the radioactivity in water.
- ppm** One part per million. The measurement corresponds to 1 minute in 2 years or 1 penny in \$10,000.
- ppb** One part per billion. The measurement corresponds to 1 minute in 2,000 years or 1 penny in \$10,000,000.
- TT** Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

## Easy steps to avoid possible exposure to lead from plumbing

- Never use water from the hot water tap for making baby formula.
- Use only fresh water from the cold water tap for drinking or cooking.
- Avoid using water that has been standing in the pipes. When a faucet is not used for more than six hours, run the cold water tap until the water feels noticeably colder (about 30 seconds to 2 minutes). This flushes standing water out of the pipes replacing it with fresh water. To conserve water, remember to catch the flushed tap water for plants or some other household use.
- Insist on lead-free solder and lead-free fixtures when repairing or replacing plumbing.
- Soft water can be more corrosive and dissolve higher levels of lead if it is present in plumbing. Home water treatment devices such as water softeners can make water more corrosive.
- Look for faucets that are NSF certified to limit contaminants to acceptable drinking water levels.



Photo by Steve Krubeck

## Cryptosporidium & Giardia

Cryptosporidium and giardia are microscopic organisms that, when ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. In recent years, these have been found in surface water across the country. Cryptosporidium can also be transmitted through contaminated food or direct contact with human or animal waste.

During the year, the Regional Water System had water samples tested for cryptosporidium and giardia. The samples were analyzed using a method approved by the Environmental Protection Agency, and neither organism was detected. This does not mean that any organisms were not present in the samples, only that none were present in the portions examined.

## Immuno-compromised special health information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Guidelines from the Environmental Protection Agency and the Centers for Disease Control on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.



Photo by Rich Reeves

## A Message from the Central Wyoming Regional Water System

As part of the Interim Enhanced Surface Water Treatment Rule (IESWTR) governing treatment for the pathogen, cryptosporidium (40CFR Part 141, Subpart P), Environmental Protection Agency (EPA) requires a treatment technique for 99% removal. Water systems using surface water or ground water under the direct influence of surface water (GWUDI) must comply with this new treatment technique as of January 2002.

Currently, the Regional Water System utilizes ground water under the direct influence of surface water from collection devices along the North Platte River: vertical wells, horizontal wells or caissons, and an infiltration gallery. This water is not treated in a filtration plant, but it is ozonated and disinfected with chloramines. Alternative filtration such as riverbank filtration to the wells occurs through these devices.

Past operational data from the GWUDI system and current microbial data being collected from the North Platte River and the combined GWUDI system water indicate that the GWUDI system operates as an alternative filtration technology. The IESWTR provides that a public water system may use an alternative filtration technology if it demonstrates to the regulatory agency that the technology meets the treatment technique requirements.

EPA is granting conditional removal credit to the Regional Water System GWUDI system while a more detailed study is designed, and the Regional Water System completes the study to demonstrate the effectiveness of the alternative filtration technologies to remove cryptosporidium. During the study period, the Regional Water System will implement interim measures designed to ensure public health protection using the multiple barriers of alternative filtration and maximized inactivation with ozonation and chloramines. The turbidity of the water from individual GWUDI system devices will be continuously monitored, and turbidity performance requirements will be set for individual devices as well as the combined GWUDI system water.

The Regional Water System will have to meet all disinfectant byproduct regulations while maximizing ozone treatment; monitor the GWUDI system water and surface water sources for E. coli, cryptosporidium, and coliphage; and meet all other monitoring and treatment technique requirements of the surface water treatment rules. This conditional approval of 2-log removal will expire on January 1, 2005.

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## Protecting yourself from cross connection problems

A cross connection is an actual or potential connection between a system that supplies drinking water and any other source or system through which contamination could possibly be introduced into the drinking water system. If you have a lawn sprinkler system or a photo dark room, there is a possibility that you could contaminate your drinking water with fertilizers, pesticides, or dark room chemicals especially if you have not properly installed the back flow preventer required by Casper city codes for these types of installations. Questions about this potentially dangerous condition or other possible cross connections and how you can prevent the problem can be answered by calling 235-8214.

## How can I get involved in water quality decisions?

We want our customers to be informed about their water utility. If you want to learn more, please attend any of the regularly scheduled meetings of the following groups:

**Casper Public Utilities Advisory Board** on the fourth Wednesday of every month at 7 a.m. in the Downstairs Meeting Room at Casper City Hall, 200 N. David St. *or*

**Central Wyoming Regional Water System** on the third Wednesday of every month at 7 p.m. in the Conference Room at the Regional Water Treatment Plant, 1500 S.W. Wyoming Blvd.

## From the EPA ...

All drinking water (both tap and bottled) comes from sources that include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals and, in some cases, radioactive materials. It can also pick up substances resulting from the presence of animal or human activity.

Contaminants that may be present in source water before it is treated include:

- ❗ Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural operations and wildlife.
- ❗ Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic waste water discharges, oil and gas production, mining, or farming.
- ❗ Pesticides and herbicides that can come from agriculture, urban stormwater runoff, and residential uses.
- ❗ Organic chemical contaminants that can come from industrial processes, gas stations, urban stormwater runoff, and septic systems.
- ❗ Radioactive contaminants that can be naturally occurring or the result of oil and gas production and mining activities.



## Frequently Asked Questions



### What is water hardness?

Hardness refers to dissolved minerals in the water (calcium and magnesium) that interfere with the sudsing action of soap. The harder the water, the less the sudsing action. The water you receive is hard with hardness levels that range from 200 ppm to 300 ppm (or 11.7–17.5 grains per gallon). A hardness less than 50 ppm (or 2.9 grains per gallon) is considered soft.

### My water is cloudy sometimes but clears up. May I drink it?

The “cloudiness” is air trapped in tiny bubbles in the water. These harmless bubbles enter the water when air is drawn into the water transmission system. This is usually temporary, and the water clears in a short time.

## Need more information?

Your questions, concerns, and observations are important to us. Contact Casper Public Utilities at 235-8213 or on the web at [www.casperwy.gov](http://www.casperwy.gov).

For more information about potential health effects of water contaminants, contact the U. S. Environmental Protection Agency at 1-800-227-8917; at the Safe Drinking Water Hotline, 1-800-426-4791; or on the web at [www.epa.gov/safewater](http://www.epa.gov/safewater).